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The Dredging *Link*

Poplar Terrapin Makes an Important Return Trip

Researchers now have evidence of second-generation terrapins reproducing on Poplar Island, a dredged material management site that has become a widely recognized haven for wildlife in the Chesapeake Bay.

Dr. Willem Roosenburg of Ohio University, contracted by the U.S. Army Corps of Engineers, has been researching diamondback terrapins on Poplar Island since 2004 and monitoring nests there for eight years. His work includes tagging hatchlings, many of which were raised in schools and then released on the island.

This May, an employee of the Maryland Environmental Service brought a tagged turtle to Roosenburg's attention. The team quickly realized that it was the first adult female tagged as an island hatchling to return and reproduce.

It takes at least seven to eight years for females to reach reproductive maturity and seek out nesting sites.

"For me, having done field research on terrapin for the last 25 years, it was a watershed moment," Roosenberg said.

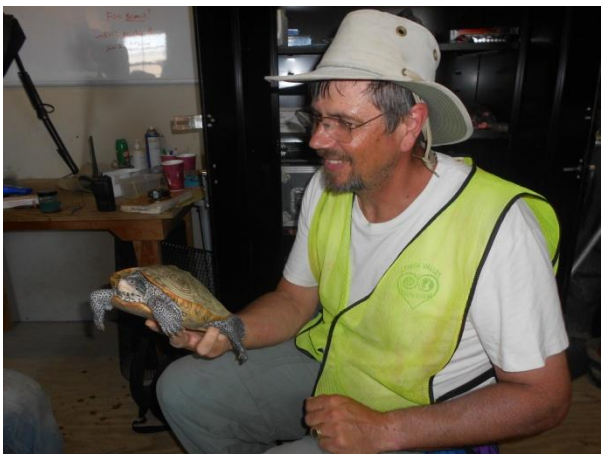
He'd hoped for similar results during early work on the Patuxent River, but the low survival rate along the river decreased the odds of success. The survival rate on Poplar Island is unusually high.

Shortly after discovering the nesting female, Roosenberg's team captured yet another tagged female that was carrying eggs.

However, the overall recapture rate of Poplar terrapin has been lower than anticipated. To explore the cause, Roosenburg is using equipment provided by the Arlington Echo Outdoor Education Center to release five terrapins that will be tracked with sonic and radio telemetry.

The Maryland Department of Natural Resources (DNR) recently looked into the possibility that terrapins have been accidentally trapped and drowned in the commercial crab pots of Poplar Harbor. DNR conducted a three-month study with 30 crab pots, using bait and placement practices that mimicked those of commercial crabbers.

Lead researcher Scott Smith said the study was inconclusive. While some terrapins do get caught in the crab pots, it's unclear whether the mortality rate from crab pots alone is enough to impact the population. Scott said the mortality rate for hatchlings is very high in any setting, from a wide range of sources, but crab pots close to habitat and nesting areas could play a larger role than those places in more open water.



Researcher Willem Roosenburg of Ohio University holds the first female terrapin that was known to be tagged as a hatchling on Poplar Island and returned to the site to reproduce. Photo courtesy of Willem Roosenburg

Port May Help Schools with Environmental Literacy

Maryland last year became the first state in the nation to have an environmental literacy requirement in order for high school students to graduate.

The Maryland Port Administration is stepping up to assist local school districts in meeting this new graduation requirement.

Schools around the state are devising methods for teachers to meet the new requirement without adding curriculum to their already full schedules. This will entail teaching environmental content differently. More emphasis is already being placed on STEM (Science, Technology, Engineering, and Math) to improve students' understanding and competence in these key learning areas.

This is where the Maryland Port Administration may help. Teachers working this summer on writing the new environmental literacy curriculum in Baltimore City have visited two Port Administration sites – Hart-Miller Island and Cox Creek. They looked at how the environmental features of these dredged material management sites, including the Swan Creek wetlands restoration at Cox Creek and the habitat development work at Hart-Miller Island, can provide field experiences for city students in coming years. Teachers have also been briefed on how other port projects could be used for field trips or as case studies in environmental management.

Photo Credit: MES

A Port of Baltimore environmental education teacher's guide is also available with suggested pre- and post-lessons plans for those interested in bringing students to one of the sites. Visit the outreach tab at www.mpasafepassage.org to download a free copy of the guide and learn more about arranging a site visit.

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Arrival of Giant Cranes Marks Turning Point for Port

Four massive cranes made a dramatic sight on the Chesapeake Bay as they completed their journey from China aboard the *Zhen Hua 13* and arrived at the Port of Baltimore on the evening of June 20.

"The arrival of these huge cranes is a momentous day for our state and for the Port of Baltimore," said Governor Martin O'Malley.

The cranes are the largest of their kind in the maritime industry—tall enough to clear a 14-story building. Each crane can reach across 22 containers of cargo and lift 187,300 pounds.

The installation of these enormous cranes is the latest and most visible phase of the Maryland Port Administration's response to the expansion of the Panama Canal.

The expansion, slated for completion in 2015, will bring more cargo ships to East Coast ports. This includes immense ships that can carry up to 14,000 cargo containers each and require 50-foot channels and berths. These ships and the cranes that will serve them are known as "super post-panamax"—the biggest in the world.

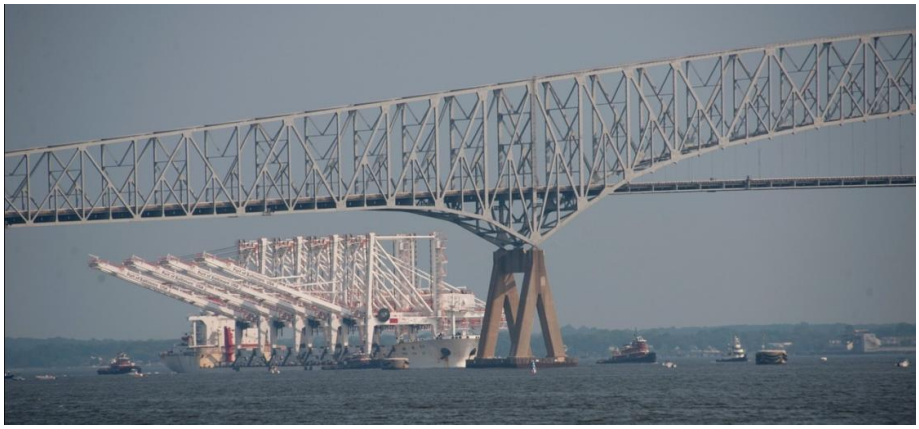

Photo Credit: Bill McAllen

In January 2010, the Maryland Port Administration and Ports America Chesapeake began a long-term partnership to improve and operate the Seagirt Marine Terminal. Part of the reason for this innovative public-private partnership was to prepare the port to receive these giant vessels coming from Asia through the Panama Canal.

As part of the partnership agreement, Ports America constructed a 50-foot deep berth that was completed earlier this year. Ports America also purchased the four supersized cranes, which are being installed at the terminal this summer.

Baltimore is now only the second East Coast port to have both a 50-foot approach channel and 50-foot deep berth.

The arrival of the cranes drew widespread attention from the public, the media, and even seasoned port employees.

The Zhen Hua 13 anchored south of the Bay Bridge near Annapolis on June 12, while the tall ship celebration took place in the harbor to kick off the bicentennial of the War of 1812.

After safely passing under the Bay Bridge, the cranes then passed safely under the Francis Scott Key Bridge on their final approach to the Seagirt Marine Terminal.

Employees are now being trained on operations, as the four leggy cranes become a permanent part of the city skyline.

Environmental Literacy Continued…

To those who work with the Port Administration on such projects, the opportunities for learning seem obvious. Making sure teachers and students seize these opportunities while simultaneously becoming more familiar with the important role the port plays in Maryland's economy is a goal the Port Administration and its private partners welcome.